

Physical Archive Style Guide

All questions must be typed up in their entirety. If a question is grammatically incorrect or flawed in any way, then it can be corrected.

All solutions must be indented in from the corresponding question.

Numerical answers must be boxed.

It must be immediately obvious how the solution progresses.

The desired variable must be placed on the left side of equations.

There must be double spacing between each line of the solution.

There must be three "bigskips" after each solution.

Explanations are required when the solution requires more explanation than mathematical progression to become understandable.

Problem numbers should have a right parenthesis afterwards.

Here is an example:

1) A radio station transmits waves that have a wavelength of 2.956 meters. What would you have to tune your car radio to listen to this station?

$$v = f\lambda$$

$$f = \frac{v}{\lambda}$$

$$f = \frac{3 \times 10^8 m/s}{2.956m}$$

$$f = \boxed{101.49Hz}$$

2) When a 256Hz tuning fork is struck simultaneously with an unknown fork 5 beats are heard in 1 second. A small piece of gum is added to the unknown fork and the experiment is repeated but now 3 beats are heard each second. What is the natural frequency of the unknown fork?

$$f_b = |f_1 - f_2|$$

$$5Hz = |256Hz - f_2|$$

The second fork, thus, either has a frequency of 261Hz or 251Hz. Adding gum decreases the frequency of the tuning fork, making it closer in value to 256Hz, so it must be greater than 256Hz. Therefore, the unknown fork has a frequency of 261Hz.